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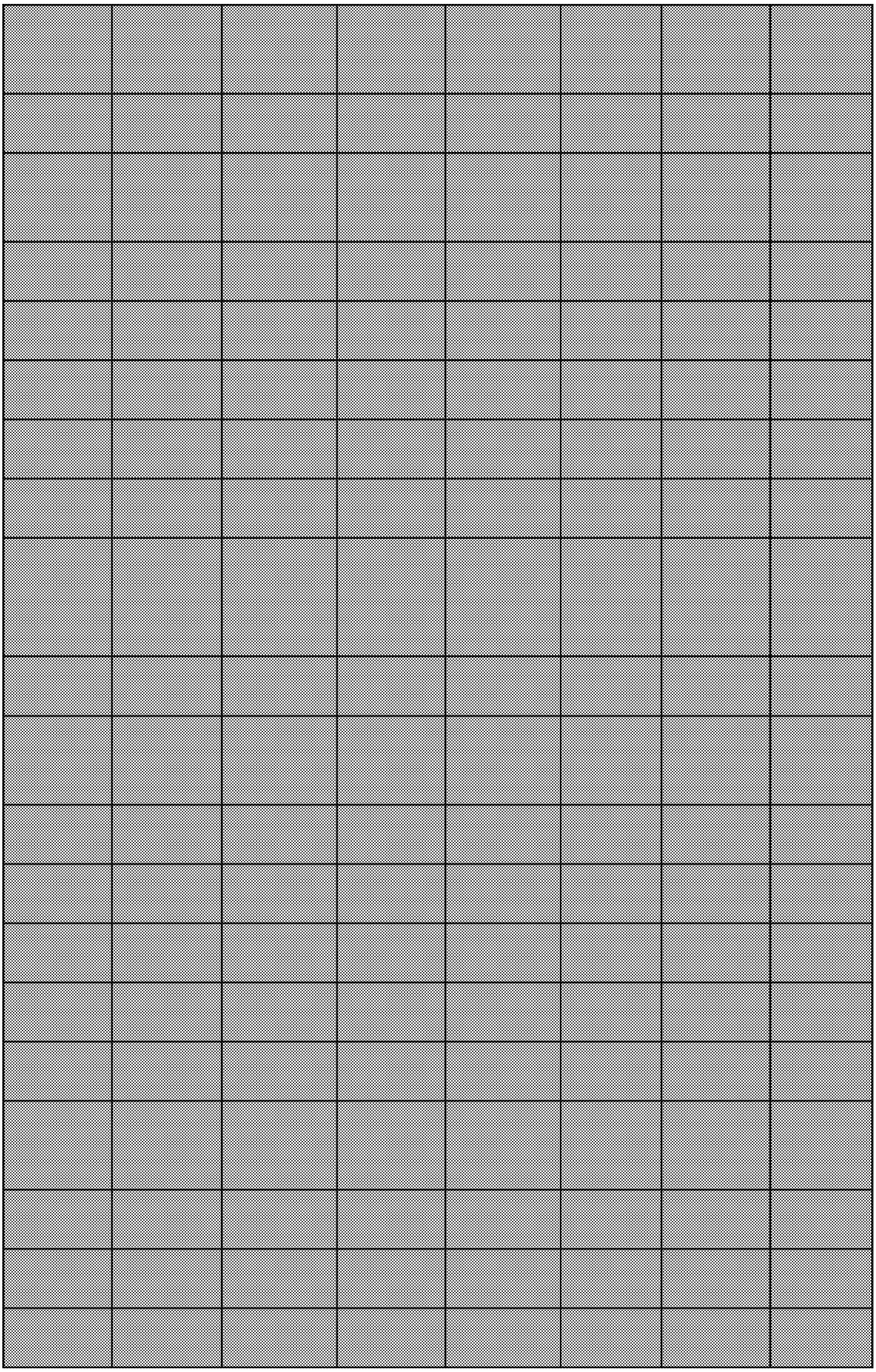

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Sedoheptulose-1,7-bisphosphatase (SBPase) is a Calvin cycle enzyme and functions in photosynthetic carbon fixation. We
In the present study, three closely related Linderniaceae species which differ in their sensitivity to desiccation are compa
ABC1 (activity of bc1 complex) is a newly discovered atypical kinase in plants. Here, it is reported that an ABC1 protein ki
Reactive oxygen species (ROS) are toxic by-products generated continuously during seed desiccation, storage, and germi
Photosynthesis provides a strong reducing power and a high risk for generation of reactive oxygen species (ROS) particul
The nature and importance of the DNA repair system in the chloroplasts of higher plants under oxidative stress or UV rad
Superoxide dismutases (SODs) form the foremost line of defense against ROS in aerobes. Pennisetum glaucum cDNA libr
Ferredoxins are iron-sulfur proteins involved in various one-electron transfer pathways. Ferredoxin levels decrease unde
A family of eight genes with homology to mammalian glutathione peroxidase (GPX) isoenzymes, designated AtGPX1-AtG
NAC (NAM, ATAF1-2, and CUC2) proteins constitute one of the largest families of plant-specific transcription factors and
Plant heme oxygenase (HO) catalyzes the oxygenation of heme to biliverdin, carbon monoxide (CO), and free iron (Fe(2+
The high affinity nitrate transport system in Arabidopsis thaliana involves one gene and potentially seven genes from the
BACKGROUND: As a large family of regulatory proteins, WRKY transcription factors play essential roles in the processes o
Excess reactive oxygen species (ROS) accumulation under various environmental stresses can damage intracellular polysa
The proteins harboring really interesting new gene (RING) finger domains comprise a large family and play key roles in a
Sphingolipids, including sphingosine-1-phosphate (S1P), have been shown to function as signaling mediators to regulate
Hydrogen gas (H2) was recently proposed as a novel antioxidant and signalling molecule in animals. However, the physio
Various environmental stresses induce reactive oxygen species (ROS), causing deleterious effects on plant cells. Glutathio
In plants, CuZn superoxide dismutase (CuZnSOD, EC l.15.1.1), ascorbate peroxidase (APX, EC 1.11.1.11), and catalase (CA
Hybrid proline-rich proteins (HyPRPs) are cell wall-localized proteins, and are frequently responsive to environmental str

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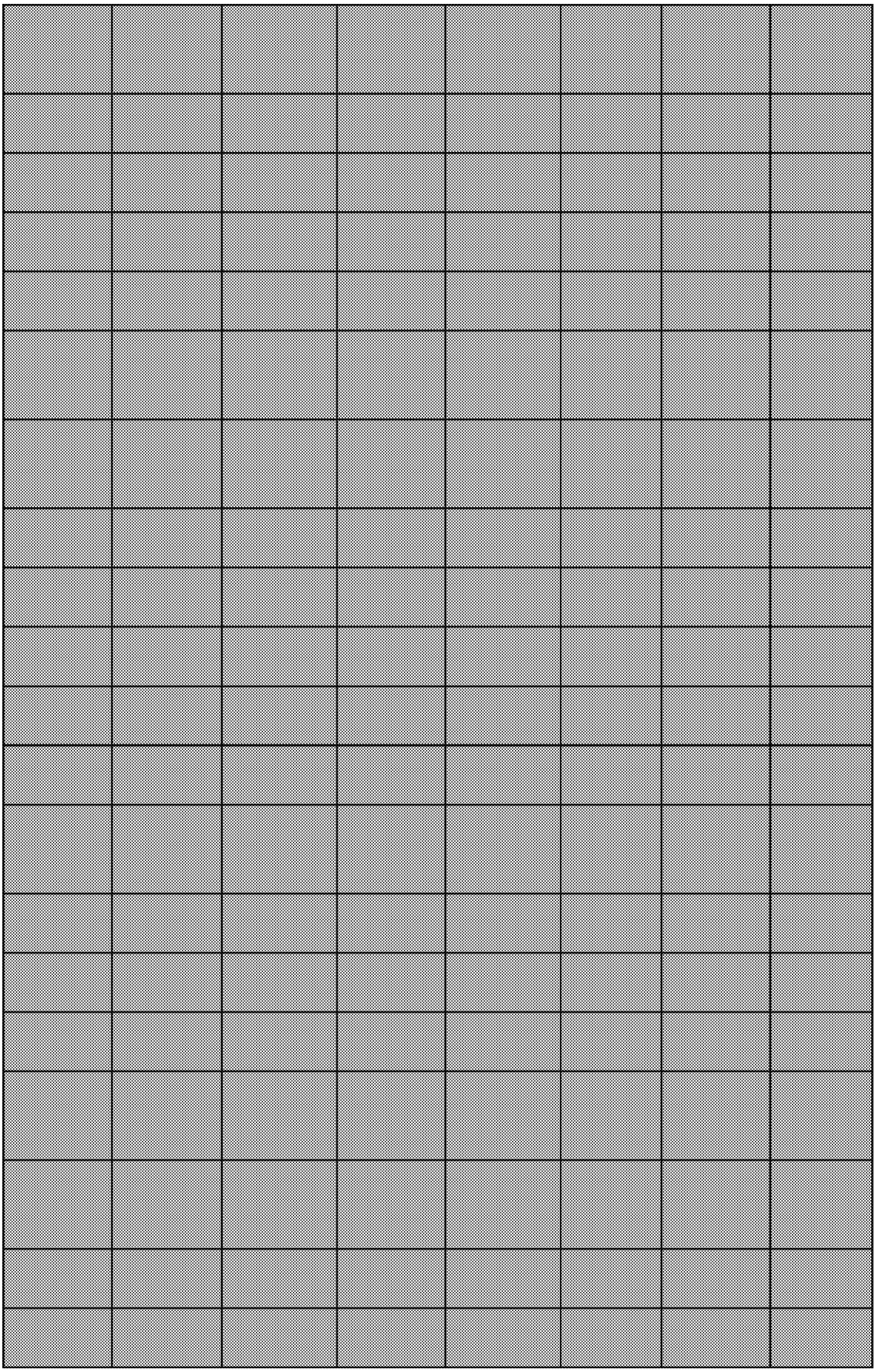

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Paraquat is one of the most widely used herbicides worldwide. In green plants, paraquat targets the chloroplast by trans
The basic helix-loop-helix (bHLH) transcription factors are involved in a variety of physiological processes. However, plan
Acclimation of plants with an abiotic stress can impart tolerance to some biotic stresses. Such a priming response has not
Ascorbate peroxidases are directly involved in reactive oxygen species (ROS) scavenging by reducing hydrogen peroxide t
BACKGROUND: Yield losses as a result of abiotic stress factors present a significant challenge for the future of global food
Calcineurin B-like protein-interacting protein kinases (CIPKs) have been found to be responsive to abiotic stress. Howeve
Iron-sulphur (Fe-S) cluster assembly occurs in chloroplasts, mitochondria and cytosol, involving dozens of genes in higher
Although evidence has accumulated on the role of plant peptides in the response to external conditions, the number of p
The roles of a tomato (Lycopersicon esculentum) chloroplast-targeted DnaJ protein (LeCDJ1) were investigated using wild
ICE1 (inducer of CBF expression 1), a MYC-type bHLH transcription factor, is an important activator of CBF3/DREB1A for r
The two cDNAs coding for the cytosolic (cyt) and the chloroplast-located (chl) Cu,Zn superoxide dismutases (SODs) of tom
The inactivation of the chloroplast ascorbate peroxidases (chlAPXs) has been thought to limit the efficiency of the water-
The notion that plants use specialized metabolism to protect against environmental stresses needs to be experimentally
Rice SPX domain gene, OsSPX1, plays an important role in the phosphate (Pi) signaling network. Our previous work show
H2O2 and mitogen-activated protein kinase (MAPK) cascades play important functions in plant stress responses, but thei
KEY MESSAGE: Our results indicate that overexpression of the GhWRKY39 - 1 gene enhances resistance to pathogen infec
BACKGROUND: The sucrosylgalactoside oligosaccharide raffinose (Raf, Suc-Gal1) accumulates in Arabidopsis leaves in res
Plastid engineering provides several advantages for the next generation of transgenic technology, including the convenie
Plant annexins function as calcium-dependent or -independent phospholipid binding proteins and constitute about 0.1%
NADPH-dependent thioredoxin reductases (NTRs) are key-regulatory enzymes determining the redox state of the thiored

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